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ABSTRACT

The first article in this report emphasizes the importance of user participation at the planning, decision-making, and production levels of small-scale instructional development in developing nations. Four subsequent articles also centered around user participation in Third World instructional development discuss folk theater as effective 2-way communication for non-formal education in African villages, collaboration between grassroot appropriate technology (AT) developers using solar energy to power 2-way radios in Guatemala, children's games which use their skills as development planners, and observations on communication processes and adult education. Other articles provide a description of the steps in a basic paper making process, reviews of two books and two films of interest to communicators, and a discussion of the reasons for a project's development communication failure in an African country. (CMV)

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Intermediate Technologies Promote Participation

by Richmond Postgate, Peter M. Lewis, and William Southwood

Industrialized nations engaged in development efforts in the Third World have often tried to replicate designs overseas that have proved workable at home. This approach has resulted in many a disastrous failure in fields mistakenly thought to be independent of culture. (The introduction of fertilizers and the mechanized farming of the Green Revolution offer many well-documented examples.) Such an approach is even less likely to succeed when applied to communications. Copying without redesign has been an endemic failing in communications, especially in transfer from industrialized to Third World countries. Communication systems are not like artifacts or even manufacturing systems. They cannot be reproduced without regard to the contextual factors that gave rise to them. Possibly more than any other single introduced technology, communications is affected by—and indeed often determines—the economic base, the class interests of senders and recipients, and the political, religious, and social superstructure of the societies onto which it is grafted.

Communication, if it is anything, is about and between human beings. However, it is precisely the human element that is so often lacking in large communication systems in the West, as well as in the technology developed to create and satisfy international markets. The communications needs of Third World countries cannot be met by national broadcasting or other large-scale media alone. Political and educational development need communications support that will arouse response and action at the local level, by groups and individuals. For this, the wide area transmissions characteristic of a national broadcasting system are unsuitable and need to be complemented by small systems that take into account different requirements and interests—climate, language, culture, and environment.

In 1978 the authors set out to conduct a study of small-scale, low cost, participatory communication systems that use technologies suited to the needs and context. Their work was commissioned by UNESCO's Division of Methods, Materials, Structures, and Techniques, and jointly funded by UNESCO and the Intermediate Technology Industrial Services unit of the Intermediate Technology Development Group. Their objective, in addition to reviewing low-cost communication systems and equipment, was to present case studies of existing small-scale communications projects in a number of countries. Their report, *Low Cost Communication Systems for Educational and Development Purposes in Third World Countries*, was published in April 1979.

There Are No Models

Originally the authors used the word "models" to describe what they were looking for. However, they ultimately had to underscore Budd Hall's statement, made in reference to the Tanzanian *Mtu ni Afya* campaign, that "there are no models." Instead, having sent questionnaires to 180 sources, they selected from the information they gathered 15 "instances" or examples for inclusion in the study. The instances were chosen not to serve as models but to give a broad picture, suggest a range of possibilities, and serve as starting points for new local initiatives.

The criteria applied to the selection of each instance were:

- **Local:** Is it *physically possible* for people on the spot, both manufacturers and users, to share in the processes of planning, execution, use, and criticism?
- **Participatory:** Is a degree of participation *designed into* the system at the planning, decision-making, and production levels?

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Folk Theater: One-way or Two-way Communication?

by Ross Kidd

Theater is currently attracting a lot of attention as a vehicle for nonformal education in the Third World. "Folk theater" or "folk media" are seen as an interpersonal communication channel, bridging the gap between the individual learners and the modern impersonal mass media.

Theater can be an effective tool for nonformal education. As entertainment it can engage and hold the interest of large numbers of people, many of whom have been alienated by traditional approaches to adult education and development. As an oral medium in local languages it can involve many people who are left out of development activities because of their illiteracy or lack of understanding of the official national language. As a means of cultural expression of which everyone in the community is capable it can be kept within the control and use of the local people. As a public or social activity it brings a community together and creates the context for cooperative thinking and action.

In spite of its popularity—or perhaps because of it—it is necessary to re-examine critically the use of theater in nonformal education. Folk media or theater is promoted as a more persuasive means than modern media for putting across development messages. But whom are we persuading? About what messages? And in whose interests?

Popular theater must be seen as more than simply a persuasive technique. Popular theater programs attract large audiences by using techniques and cultural symbols that people understand. But the techniques cannot be separated from the content or purpose of the program, nor from the social and educational context in which theater is

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Intermediate Technologies

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- **Appropriate:** Are the installations, equipment, and organization appropriate to the human skills available and to the activities to be undertaken?

The instances were chosen both from Third World countries—Afghanistan, Bolivia, Botswana, India (three separate instances), and Peru (two instances)—and from the more industrialized ones—Australia, Canada, Ireland, Italy, Britain, United States, and Yugoslavia (two instances). The objectives of the instances ranged from improving rural skills, to promoting small town community involvement, to communications for residents of a new city suburb and for excluded urban groups. The media used in the various instances included local broadcast radio, television and satellite, audiocassette, video, audiovisual aids, and popular theater. By taking these examples and documenting them as fully as the available information permitted, the authors hoped to provoke a specific reaction: "Our situation is not unlike some of these; let's find out more and design our own system."

What Is Appropriate?

The original inspiration for the study was Fritz Schumacher's book, *Small Is Beautiful*. The popular catch phrase has often been unthinkingly used, as if small were beautiful at all times and everywhere. Schumacher's contention that "appropriate is a question" helps to set the concept apart from the absolutes that generally surround technical solutions to human problems.

Although what is appropriate in one context may be totally inappropriate in another, every communications project stands a better chance of success if it grows out of a knowledge of available alternatives. The task of a potential user of communication techniques is formidable if he or she does not have knowledge of and access to the technologies and methods largely developed in the industrialized countries and adapted, often successfully, for the Third World by Third World practitioners. Of course, the political will of the participants and a degree of support (or at least passive acceptance) from those with the political clout are necessary to the success of any communications scheme. But even when these coincide, the knowledge of the black boxes available, of their cost, of their reliability, and of the means of hanging them together is seldom available to the barefoot communicator.

An attempt has been made to narrow these gaps in an analytical section of the report under the broad heading of "technology." Another section documents the data collected from the experiences of all who answered the questionnaire.

Toward Relevant Standards

One conclusion of the study is that it is sensible to specify standards of communication equipment only with reference to the message the communication channel is expected to carry. For example, the standard required in educating and training participants and producers for a local village's videotaped performance is very different from that applicable to a national television broadcast. The former will invoke far more participation from an audience familiar with the actors, and will convey an immediacy that outweighs its lack of polish. There is *no* standard by which to compare such diverse objectives, and any technical or production criteria must be seen as a diversion of attention from the real merit of the final product.

Once this is accepted, it is easy to avoid the apparent trap of viewing all but the most modern technology as second-rate. Not that this tyrannical approach evolved in the Third World; it was exported along with other trappings of colonialism and neocolonialism as *the* path to development through emulation. In the process, many truly appropriate ideas have certainly been hijacked, many able communicators brainwashed into a blind rejection of any program or piece of equipment that did not meet the standards of the metropole.

With this in mind, the experiences of community radio, pirate radio, and small-scale local radio of the West provide valuable hints of possible communications alternatives. The standards for much consumer audio equipment are now as high as for broadcast systems, and, in some countries (Italy being the prime example), branches of the electronics industry deal solely with equipment for this type of service. The consumer boom, and the production and marketing of the Japanese and Western firms that initiated it, have had far reaching spin-offs in the Third World.

A good example of this is the audiocassette. Simple enough for almost anybody to operate after a few minutes of instruction, universal in its application, standardized throughout the world, reliable, and relatively inexpensive, cassettes are a feature of many of the projects reported. Despite standards falling well below what would be acceptable to most Western administrations, its use in rural education programs, as a source of input to local or regional broadcasting, or as a means of having the voice of a community heard, is well documented. Clearly the criterion that it sounds good enough to convey the message is more important than its failure to meet specifications for wow and flutter.

People and Participation

Another conclusion of the study is that the effectiveness of small-scale systems results largely from the energies released when small teams share roles and tasks among themselves and with volunteers. Some of the instances show the excitement of producers and technologists freed from a strict division of labor: "Everyone wanted the day to be 48 hours long."

However, participation that is confined to communications and not extended to other aspects of social and political life is artificial. The participants themselves may indeed be benefiting, but absorbed in the operation of the communication system, they may well be diverting their energies from more pressing problems or more productive channels. A prior condition for introduction of a participatory system is the willingness of the ruling class to accept the consequences of the changes that such an enterprise is likely to bring about. If there is a desire for change at the base, and no willingness on the part of the authorities to allow it, frustration may manifest itself in cynicism or overt political action, or it may lead to an acceptance that one must work within the "political space" available.

Several instances of participation at the production, decision-making, and planning levels were identified, although in some cases the professionals tended to dictate both what should be communicated and how. Involvement of farmers in rural development programs and democratic control of Italian urban VHF stations were among the positive examples reported.

Selection and training of participants are two areas in which a need to depart from time-honored approaches is apparent. In Peru, communications graduates were found to be less suited to small-scale work than the "natural communicators" found within the group being served by the communications. The graduates emerge "wanting to give *their* message to the world, not to serve as a link." In the Peru project, however, project administrators found it difficult to recruit *campesinos*, as they discovered that "extracting people from their environment and giving them training results in displacement." This did not seem to be an issue in Bolivia, where an apparently more successful (and much smaller scale) project is using ex-*campesinos* for production of radio programs.

Manufacture

One criterion for appropriateness should be the ease with which a society can become independent of imported materials, methods, or ideas. However, the gap between the industrialized "haves" and the Third World "have nots" is nowhere greater than in communication technology produc-

tion. The very nature of transistorized electrical and electro-mechanical equipment such as cassette recorders means that huge economies of scale can be realized. While it is possible to construct a radio receiver from a tin can and a piece of washed coke, it is *not possible* to manufacture a transistor in the kind of workshop environment used to produce even such a relatively complex piece of equipment as a hydroelectric generator. So the very small number of instances of local manufacture associated with small-scale communications was not really surprising: simple and reliable imported equipment is simply taken for granted in most cases.

The equipment availability factor, which more than any other has released communications from the grip of the professionals and technocrats, produces an ironic contradiction: any equipment manufactured "locally" is bound to be less reliable, probably more expensive, and less convenient to use than imports, thus sabotaging the advantages in terms of local participation attainable through local program production.

One of the few instances of local manufacture reported was the assembly of a VHF-FM receiver from imported components. The units designed to be worn on the arm, were in prototype production at the University of Pune, India. The factory is operated by a consortium of businessmen using the labor of students in the physics department, and has for some years been producing educational materials. The new venture is planned as part of a wider extension campaign, and it is anticipated that the receiver will make it easier for rural workers to listen to programs while going about their daily tasks. Others, however, have found that they cannot successfully compete with products imported from overseas, and many ventures have failed through unreliable supply, lack of market outlets, or difficulties in production itself.

Where to Now?

The conclusions to be drawn from such a limited study must necessarily be tentative. The information received and the enthusiastic responses from those providing it are clear evidence that small-scale communication systems have a part to play in any program of education, economic development, or political change. In many cases such systems may succeed where large-scale ones prove to be unsuitable.

These points are neither widely known nor widely accepted. The reasons are complex and include the unwillingness of governments to devolve central power, the prestige of the high technology solution, the profit to be made by manufacturing companies from replicating Western technology for the Third World, and the absence of an organized collective market demand from the Third World. A further result, which is in itself a cause, is the neglect of small systems as an integral part of international aid packages.

The most important and clearest conclusion to be drawn is that small-scale systems can and do work. They work where a genuine desire for them arises within the country concerned, and where the relevant authorities are prepared to give continuing support. They do not work when artificially grafted on from an alien source. Most important, they succeed in direct proportion to the participation of the producers and audience at every stage. ■

This article is based on a 75,000-word report, Low Cost Communication Systems for Educational and Development Purposes in Third World Countries, *available from the Methods, Materials, Structures and Techniques Division of UNESCO, 7 place de Fontenoy, 75700 Paris, France.*

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Solar Energy Powers Two-way Radios

A recent report prepared for AID, OECD, and IBRD investigated the possible relevance of appropriate technology (AT) developments in the United States to Third World development. The report noted that the most innovative AT practitioners in the U.S. have historically been detached, usually quite deliberately and for ideological reasons, from traditional government and institutional funding sources, and have not had the resources to maintain overseas connections. Still, there have been some examples of successful collaboration between grassroots AT developers in the U.S. and the Third World. The article that follows describes one such effort.*

by Jerry Miller and Albert Houston

In February of 1976 a major earthquake devastated Guatemala, killing more than 22,000 people and leveling adobe houses and buildings across the country. Among the organizations that responded to that disaster was Plenty, a non-governmental charitable relief and development organization with headquarters at The Farm in Summertown, Tennessee.

The first Plenty volunteers to arrive on the scene found that, with telephone lines down, there was an urgent need for communications assistance. A call went back to Plenty's headquarters for technicians to set up an emergency communication system. The two-way radio system they initiated then is still in place, in use, and saving lives, owing largely to Plenty's original determination that the technology they introduced must be adapted to, compatible with, and maintainable by the local people.

Plenty worked in two main target areas in Guatemala. The first was a series of villages with a population of approximately 100,000, stretched around a large lake surrounded by three volcanoes. A rough road, passable only by four-wheel-drive vehicles, extended three-quarters of the way around the lake; some villages were accessible only by boat. The second target area was a string of villages of some 40,000 people, separated by several thousand feet in altitude. The uppermost village sat at a 30-degree slant on the side of a volcano. One bus per day passed by this village.

In both areas Plenty installed two-way radio systems connecting relief team ambulances, local health workers, hospitals, clinics, and fire-emergency units in the larger towns. The lake system had 12 stations in its system, the mountain system had 14. In many instances the radio was installed in the bamboo or adobe dwelling of the local health worker. In most villages, the two-way radio stations were the only communications link the village had with the outside world; telephone and telegraph services are not likely to extend to many of the smallest villages for years to come.

A car battery, used to power the radio, was placed near the station, with a fused line connecting the two. The wires were color-coded to ensure proper reconnection should a health worker or technician need to reconnect the battery. Extra fuses were left at each site in case of a temporary short circuit. The batteries would provide power for one and one-half to two months without being recharged. Periodically, the system technician would bring a hot battery replacement.

**The Relevance of AT Developments in the U.S. to the Third World: A Compendium of U.S. AT Organizations*, edited by Frederick W. Smith, and based on reports by William N. Ellis, George McRobie, and Kenneth Darrow, Spring 1979. For information on availability, contact the Office of Science and Technology, USAID, Washington, D.C. 20520, U.S.A.

An antenna was installed outside of the station on a tall pole. Guy lines were secured, lightning ground rods pounded in at the base of the pole, and cable connected to the radio. Each station, constructed by two-person teams, in many cases with the help of local villagers, could be easily installed in one day. Solid communications of from 15 to 30 miles were achieved by the system, depending on the location.

Although this was a very low-maintenance system that could last up to 20 years, it did require the training of local technicians. Plenty conducted a three-month training course and awarded volt-ohm meters, antenna-power meters, and tool kits to the most promising students. These indigenous technicians were quick to learn the technology, once they had access to the tools and training. They were also indispensable to the ongoing functioning of the system.

The radio system devised for Guatemala is built in modules to facilitate rapid repair in the field. The Plenty staff supplied the system technicians with spare parts and taught them how to isolate which part of the system was malfunctioning and how to replace it. Damaged modules were to be taken to a central shop for repair.

The Plenty system designers made every effort to safeguard the system and to prevent deterioration of the equipment due to environmental factors such as rain, heat, and high velocity wind. Exposed microphone cables, batteries, and speakers were bolted down. Plenty learned that, if speed of installation is important, all equipment should be procured, preassembled, and modified in advance for the location in which it is to be used. Necessary modifications might include water seals and cast housing for waterproofing, insulation, replacing external microphone cables with push-to-talk bars, and provision for bolting the equipment down. Plenty feels that local manufacture of equipment components would probably be possible only for large-scale, nationwide systems with production of at least ten thousand stations.

Another modification—one that could have major implications—is the use of a relatively inexpensive solar panel (U.S. $200 per station) to replace the battery power system. These panels, which have been tested in a variety of communication applications, require almost no maintenance, and would eliminate the need for battery servicing. A trickle charge of just over half an amp is more than sufficient to keep the five-watt transceivers operating. The minimum cost for a basic solar-powered two-way radio station is U.S. $500, plus installation costs. Modifications for extremely harsh environments can push the cost up to $1,000. A battery-powered station would be approximately $200 less in total costs. Plenty is continuing to experiment with the solar component of the system and hopes to make it affordable for widespread use in the Third World.

Plenty learned from its experience in Guatemala that the long-term survival of a communication system depends on its use. The use of the system for medical and emergency situations, and its placement in clinics, hospitals, fire stations, the homes of health workers, and emergency vehicles, made it acceptable to officials and citizens alike. The villagers learned quickly that the system provided the possibility of fast help in an emergency and access to the advice of a doctor. With health and medical advice brought into the village by the radio, the number of emergencies that had to be transported to clinics and hospitals decreased markedly.

Plenty's activities are not limited to communication systems. Plenty also runs an agricultural project in Guatemala that is attempting to introduce soybeans into the native diet. Plenty volunteers have been teaching the people of the highlands how to make soymilk and tofu, and have screened some 20 varieties of soybeans to determine which ones would grow best in that locale. They are in the process of setting up a soy dairy.

In addition to working with soybeans, the agricultural project has been conducting research on other high-protein crops such as grain amaranth, quinoa, and wing beans. Amaranth was a major crop of Guatemala before the Spanish conquest but its use was interdicted by the conquerors, and the ancient varieties of amaranth are now in danger of extinction. Plenty is attempting to reintroduce this native crop, blending what is known through modern empirical agriculture with the agricultural wisdom of the agrarian Guatemalans.

Plenty also conducts Village Technology training programs for many Third World trainees. In addition to radio communications and electronics, the program includes training in nutrition and soy production, agriculture, mechanics, village construction, solar heat and water systems, primary health care training, and midwifery.

Plenty is convinced that low cost, two-way radio communication systems are a viable alternative to expensive telephone and power installations for thousands of villages around the world, particularly when powered by solar panels. As a result of their experience in Guatemala, two of Plenty's original technicians were recently engaged as consultants by the World Bank to conduct a feasibility study in Bangladesh on the use of two-way radio for rural health communication. This radio network would be used to connect medically trained women in local villages to regional clinics and doctors. The proposed pilot system is a 60-station, solar-powered system that will cover three districts, an area containing over one million people. In Bangladesh, as in Guatemala, Plenty would work closely with the local people to gain authentic knowledge of the cultural dimensions of their community, hoping to provide an atmosphere conducive to the design and implementation of a truly appropriate communication technology. ■

For information on solar communication systems, contact Jerry Miller, Solar Electronics, The Farm, 156 Drakes Lane, Summertown, Tennessee 38483, U.S.A.

Jerry Miller and Albert Houston are Plenty technicians who were involved in both the Guatemala and Bangladesh projects.

Folk Theater

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used. It is the latter that determine whether the program is serving the interests of elite groups or those of the oppressed. Theater as pure technique is neutral—it can be used for domestication or for liberation. But once it is applied to a social or educational context, it is no longer neutral. It functions—consciously or unconsciously—as a means to persuade people to accept their situation or as a device for challenging them to become engaged in changing it.

In looking at the various ways popular theater has been used for nonformal education in Africa, it is important to consider the following issues:

- Whose side is the program on—the elites or the oppressed?
- Who sets the goals and controls the program?
- What are the underlying assumptions on which the program is based?
- What is the educational method involved in the program—a form of "banking" or authentic dialogue?
- What is the effect of the program—conditioning people to accept their situation (domestication) or challenging them to "deal critically and creatively with reality and discover how to participate in the transformation of their world"* (liberation)?

Theater and Information Campaigns

One of the earliest uses of theater in Africa as a means of nonformal education was in the Ghanaian mobile information campaigns, mounted by the colonial government after the Second World War as a major part of their mass education program. Interagency teams of field workers traveled from village to village, organizing programs of drama, discussion, and demonstration. The technical departments—agriculture and health—chose and shaped the messages; the community development department provided the team leadership and skills in mass extension work.

The program operated in one-way banking fashion, with the organizers imposing their views of what the people need. The underlying assumption behind this program is characteristic of much development work: the view that development problems can be overcome simply by modifying the behavior of the poor, by giving them the knowledge development agencies feel they need.

This development strategy is based on a deprivation view of disadvantage: that poverty is self-inflicted, that the poor are poor because they have certain deficiencies or inadequacies. The strategy then is to teach the poor new skills. The purpose is to give information rather than to develop critical awareness, challenge vested interests, or generate commitment for collective action. The social problems that condition their oppression need not be altered; only the oppressed need to change. Thus the interests of the dominant class are secured.

It is, of course, important to treat symptoms as well as to attack basic causes, but the basic causes are much more crucial. The health of the people is far more influenced by politics and power groups, by distribution of land and wealth, than it is by treatment or prevention of disease. The key constraint to progressive social change is not lack of skills and information about farming, nutrition, family planning, health, etc. It is structural inequity: inequity of wealth, of government services, of educational and employment opportunities, of wages, of power, and of basic human rights. This inequity undermines the capacity and confidence of the poor to control their lives; it conditions them to accommodate themselves to the norms of the dominant groups rather than to struggle against them. As a result, the dominant groups assume an increasingly paternalistic stand, under which the rural poor become the politically voiceless recipients of the ideas of the dominant classes and of further exploitation.

The irony is that folk theater is publicized as a bottom-up alternative to the mass media, and yet it is used just like the mass media, with centralized production of messages and limited local participation and dialogue. The theater forms do "humanize" technical messages by putting them in the context of everyday family and community life, but the imposition of centrally determined information and the lack of engagement in critical analysis and collective action produce more passivity and dependence and a feeling of technical and cultural inferiority. Even though popular theater in this case has a progressive image, its effect is one of social control and domestication.

Theater as a Two-way Process

Over the last several years there has been an increasing use of theater as part of a two-way communication process in which performance is the catalyst for discussion. The media do not prescribe the solution; their job is to present the problems in a way that challenges people to take a fresh look at them and try to do something about them. The spectator is no longer a passive recipient of government messages; he is provoked by the performance and the educational program to respond in an active way.

One of the first experiments of this kind was started by a group of adult educators and extension workers in northern Botswana in 1974. They realized that they could make very little impact on agriculture or health or community development without starting to analyze the larger social forces controlling their situation. They found it more and more difficult to accept the elitist nature of their work, and recognized that real solutions required the mobilization and active participation of the whole community.

Socio-drama mixed with discussion and collective action seemed to provide the beginnings of an answer. Its liveliness attracted people and held their attention, and this made it possible for other things to happen. It provided a means for expression of feelings and analysis about major problems in the community. It also produced a mirror of the community as the focus for discussion and a stimulus to take a more critical look at the situation.

The popular theater program initiated by this group has become an annual festival, called Laedza Batanani. Each year all of the community leaders and extension workers in the area come together in a workshop to plan the festival and choose the issues they will address. Then a smaller group is selected to prepare a performance of drama, puppetry, dances, and songs, and to take this on tour through the five major villages in the area. After each performance the actors and other local extension workers divide the audience into groups and organize discussion of the problems presented. In a report-back session the chairperson tries to get agreement on decisions for action. Then it is up to the extension workers to provide the organizational support and technical information for any follow-up action.

The involvement of local performers—extension workers and community leaders—ensures that there is a better chance of discussion and follow-up. This is not an outside group putting on a performance and then leaving the community. The performers live in the area, understand and identify with the issues, and therefore take an interest in stimulating and supporting positive results from the festival.

The community workshop that is used to plan the festival has two important effects. It provides a clear mandate from the community on the priority problems they want to focus their energy on during the festival and for the balance of the year. This in turn produces a common focus for the various extension agencies as the basis for joint action—a major step forward in the coordination and integration of extension work in the area.

Results of the Botswana Program

Over time, the popular theater program in Botswana has become increasingly committed to liberation. Whereas in the begin-

*Paulo Freire, *Pedagogy of the Oppressed*. New York: Herder and Herder, 1972, p. 15.

ning it was uncritical about its allegiances and the nature of class divisions. Issues are now more carefully selected to represent the concerns of the rural poor, and a much clearer critical perspective is applied. In this case, critical analysis involves looking beneath the apparent causes for the real constraints that condition the life of the poor. For example, the agricultural slogan, "plow early," has been examined in terms of the interests it is meant to serve. In the case of poor families who have no livestock, this slogan victimizes them, makes them feel inadequate in a situation where they need to work for richer cattle-owners for a few months in order to borrow oxen, by which time it is too late to get the full advantage of the rains.

The critical perspective in the drama challenges people to evaluate the forces conditioning their lives and to respond in an active way. It has led people to question openly the practices of specific individuals and institutions. Poorer villagers, women, and others who had been unable to express their opinions in village meetings have started to become more vocal about various forms of oppression.

The educational method used is problem-posing discussion, rather than "banking" or indoctrination. Instead of imposing packaged solutions in a direct and mechanical way, the organizers present the problems as viewed by local people and engage the audience in looking for solutions themselves. The program does not end with the performance—the performance is really only the beginning for a major program of community discussion and collective action.

This brings us to the weaknesses of the Botswana program. A popular theater program works when there is an organization that can take the momentum—the motivation and heightened awareness—created by the drama and build on it. In Botswana, most community organizations are weak and represent only elite interests in the community. Organizations with a more popular base need to be developed to provide the leadership for organizing both the popular theater program and follow-up action. At present, the program is built around the involvement of government extension workers as actor-animators. These workers are becoming more committed to progressive social change, but they are still influenced by traditional development issues—those concerned with modifying the deficiencies of the poor—and are constrained from getting too deeply involved in sensitive political issues.

Chikwakwa Theater and Wason Manoma

Popular theater for development originated in quite a different quarter in several other African countries. Following on the success of the Makerere Traveling Theater in 1966, the university theater departments in Uganda, Kenya, Tanzania, Zambia, and Malawi set up annual tours by their drama students through the rural areas as a challenge to the elitist urban theater and as a way of animating critical awareness, communication, and cultural activity among the rural poor. Of those, Chikwakwa Theater in Zambia was the most closely identified with adult education and development.

Michael Etherton, the founder of Chikwakwa Theater, was instrumental in developing *Wason Manoma* (Plays for Farmers) when he moved to Ahmadu Bello University in Zaria, Nigeria. This represented one of the first occasions when theater people have used their art to generate critical reflection and community action around the problems of specific communities.

In its first year (1977) *Wason Manoma* focused its attention on the national food production campaign, "Operation Feed the Nation" (OFN). As in *Laedza Batanani*, the group started by holding informal discussions with farmers in order to "establish first the farmers' own view of OFN so that the plays themselves start from the peasants' perspectives and the de facto situation vis-à-vis OFN in the area." This research identified instances of local officials and traders selling fertilizer above the controlled price and discrimination against poorer farmers:

> The students explained that they were not bringing fertilizer but plays about fertilizer. The farmers replied that they would prefer the fertilizer; but if the plays were the only thing on offer then at least let them be about the farmers not getting the fertilizer which they were promised. The students perceived a sharp discrepancy between the rhetoric of agricultural development and actual practice; and a latent antagonism between farmers and rural officialdom.*

Back on campus the students improvised four plays dealing with the issues they had discovered. Before going on the road the plays were tested out on an audience of extension workers—a form of action research—and then amended. The students performed the plays in the villages in which they had conducted the research. Most of those who attended were the poorer farmers in the area. In discussions they commented on the relevance of the performances to their own situation, described other problems in getting fertilizer, and asked for advice in setting up an effective organization to serve their interests.

This demonstrated the major weakness of the program: the students were not adequately briefed to provide this sort of information, nor were they in a position to return with it. Without leadership and training in organizational skills, the farmers were unable to act on their heightened awareness. As an experiment, the organizers of *Wason Manoma* have started to work through the development agencies in the area to try to provide continuity and followup.

*Michael Etherton, "Drama for Farmers." London: *The Times*, December 1977.

Ngaahika Ndenda

The most successful use of people's theater in developing critical consciousness and mobilizing people for collective action has been in Kenya. This experiment started with a village community near Nairobi—where land is such a desperate issue that many people are forced to build their homes on footpaths and are often arrested. As part of a Freirean literacy program the literacy groups held discussions on landlessness, poverty, unemployment, housing, and other controversial issues.

Kenya's foremost author, Ngugi wa Thiong'o, worked with them in producing a play around some of the themes they had discussed. Ngugi and their literacy teacher wrote a play, *Ngaahika Ndenda*, and the script was discussed and amended in discussions with the literacy groups. For several months public rehearsals were held in which the whole community participated, taking various roles (there were over 150 parts), working out the songs and dances, improving the performance through collective criticism, and discussing the meaning of the play for their own lives. They built an open-air theater using local materials and seating over 2,000 people. The play was staged every weekend for two months and attracted over 30,000 people.

Ngaahika Ndenda is authentic people's theater, growing out of a popular organization that is controlled and managed by the community. Organizational skills are developed and participation maximized through work on committees. Participation in the program is high because it speaks to the concerns and hopes of the peasants and villagers, heightens their understanding of the structural factors responsible for their condition, and demonstrates their capacity to change that condition through collective efforts. The perspective they have developed is a critical one, not a mystified one. Their analysis of social inequality and dependence exposes the root causes of poverty, landlessness, unemployment, illiteracy. The play reflects the class divisions in society; conflict is not between individuals, but between social classes that are represented by characters in the play.

Conclusion

Experience in Africa has shown that popular theater can play a progressive role in nonformal education, expanding participation and providing a mirror for criti-

cal analysis and a catalyst for discussion and action. However, its policies, programs, and projects must be analyzed in terms of who benefits, how, when, where, and why.

As a tool for persuading people about development information, it is largely ineffective. Putting across information cannot achieve social change when the structural and institutional context in which the receiver exists opposes his development.

In order to avoid being marginal, coopted, or reactionary, popular theater workers must make a deliberate commitment to reverse the social, economic, political, and cultural oppression of the poor. Theater workers and adult educators must engage themselves in the struggle of the oppressed, using theater as an aid in articulating their concerns and demands, in clarifying the nature of poverty, and in working out organizational strategies for challenging those forces that create or reinforce poverty.

Theater is a powerful catalyst, but on its own it cannot achieve significant social change. It must be integrated with the organizational capacity for action. Otherwise it will never be anything more than an interesting and exciting spectacle. Linking theater with popular organizations and developing the necessary organizational skills is perhaps the hardest task but it should be given priority attention: control of the organizations must be put firmly into the hands of the peasants and workers. Given a clearer commitment and strategy, popular theater is anything but a palliative for the deprived groups of Africa. ■

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Games Tap Children's Skills as Planners

by David Drucker

One of the intentions of the UNICEF-sponsored International Year of the Child (IYC) is to increase the benefits that will actually reach the children — especially the underprivileged children of the world. However, such a way of stating it echoes concepts derived from charitable origins, where the privileged donated to the deserving underprivileged. We must acknowledge and appreciate what the newer emphasis on *participation* means, both in terms of technically effective development and in terms of the essential recognition of the quality and equalitarian citizen-status that should rightly belong to *all* individuals. It is time we consider children not merely as sentimentalized beneficiaries, but as respected and vital contributors to their own and their community's well-being.

It is obvious to anyone who is familiar with the developing world that children above the toddler stage soon begin to work and contribute to the household, if not actually providing cash, certainly enhancing the social economy of their family and community with their labor. Enter any village and you will see children working. Park a vehicle near any market and the children will want to sell you something or will seek casual employment. In fact, a recent report states that in South Asia alone, 29 million children are gainfully employed, by ILO standards. Another fact is that children *know*. They know an enormous amount, and adults have failed to gather and put to use the very careful *research* undertaken, quite voluntarily and without guidance, by children, using their inherent sense of curiosity.

Watch a child staring intently at a parasitic growth on the trunk of a tree; watch him prod with a stick at an insect; listen to him tell about a neighbor's baby, or discuss who died and how they were sick; notice how every little hole is investigated, and every puddle or trickle of water becomes a focus of attention. Listen to my sophisticatedly educated son tell me about fantastic and truly obscure "achievements" that he has gleaned from the *Guinness Book of World Records*, or my small daughter tell me her skin is full of tiny, tiny holes — all research, however academically faulted.

Let me not labor the point — children *know*. But the community of children shares the circumstance of any community that is to be involved in development: we who are in the development business fail to recognize that those whose lives are, we hope, to be positively transformed, and who have for centuries *known* the local circumstances and condition of their lives, need to assist themselves and educate us by being skillfully encouraged to *know what they know*. What is required is the organization and presentation of their knowledge, so that together we can examine their knowledge in a thoroughgoing and persevering way. If we can help this to happen, we may have earned sufficient trust so that they might be open to listening to and incorporating any new knowing that we developers think *we* know.

We must do this not in an unconsciously arrogant manner of "we-know-best-really," but in a genuinely equalitarian "how-does-this-fit-in-with-what-you-know" spirit of inquiry, which truly expresses a community development philosophy of partnership. We must remember that we have to allay centuries of experience that tells communities that much of what is initiated by outsiders is self-seeking and accrues to those up the hierarchy in the high status positions.

If community participation is to have the vitalizing effect that all the sectoral programs rather suddenly are beginning to say is essential to their development projects, it will be necessary to painstakingly generate (with sufficient and appropriately allocated resources and skilled personnel) a process leading to viable community planning mechanisms from the "bottom up," with ministries and agencies gearing themselves to the largely unfamiliar role of "support-down."

This brings me a long way round back to the children, for they can most certainly contribute to, and might even spearhead, development. After all, they will be around longer than most of us, either enjoying or carrying the burden of all our activities.

Take, for example, those puddles and trickles of water, and add the wells and the ponds, and the tanks, even the storage jars, and the springs and the waterfalls, the creeks and the drains and the rivers that children are the local experts in splashing, floating, and falling in, and knowing about. We know that contaminated water is the cause of untold discomfort and disease, and is one of the main outriders of death itself for far too many of these children. We in UNICEF, our governments, and others have determined to do something about what we know in this respect, with a whole range of clean water supply programs and projects.

We know a lot about a range of possible technical innovations and hardware, drills and pumps and pipes; we know something about the macroeconomics of such matters; and we know something about how start-up ("pump-priming") funds are assembled.

How can we put all this knowing, both available and potential, together? Well, how about inventing "Look, See, and Tell Games" — pleasurable and exciting games, yet serious, as the best games should be?

One game would be for the children to look out for every conceivable source of water in the surrounding area. The children could work in pairs or teams, leaving some kind of marker or agreed "secret sign" at

(Continued on page 10)

Beans in a Bowl

observations on communication and adult education in developing countries

by Andreas Fugelsang

Part One of "Beans in a Bowl" appeared in DCR No. 27, July 1979.

If we are to define an educational strategy better and develop more suitable educational methods, it is necessary to take a closer look at what actually happens when information is processed or knowledge transferred in development work. A generalized and simplified model of reality may prove fruitful for our understanding. I shall not question what we actually mean by notions like "development" or "progress," but merely point to the fact that the process that is implied is fundamentally dependent on transfer of knowledge and information that is acquired through the kind of concept-based thinking and systematic, "scientific" behavior considered typical for Western, industrialized societies. Initially, this information is stored in the concepts of a written language. If we recognize that culture is how people structure their experience conceptually so that it can be transmitted as knowledge from person to person, we have a basis for creating a fruitful model.

The communication loop runs from written culture to oral culture and back again. The development education problem is fundamentally a *cross cultural communication problem*. I am referring not only to the international context of a North-South dialogue, but just as much to the national context within the Third World countries themselves. The written culture is represented by the government and the professional/technical establishment, the oral culture by the rural village or urban neighborhood community.

Some additional details are necessary to amplify the value of this model for a practical nonformal education strategy. In an oral culture, myths, epic poems, and proverbs are the mechanisms for information processing. (A. Cole, et al., *The Cultural Context of Learning and Thinking*. N.Y.: Basic Books, 1971) Proverbs are the means of giving instructions to children, warning a person against ill-considered behavior, or summing up an argument:

"He who knows much does not speak much."

"Little by little an egg will walk."

"Don't catch a leopard by the tail, but if you do, don't let go."

"Fifty lemons are a load for one person, but for fifty persons they are perfume."

The individual must learn not only *how* to use proverbs, but also *when*. It is disrespectful for a youngster to quote proverbs to his elders. As a person progresses toward the status of an elder, he learns more stories and proverbs, as well as more circumstances under which he can apply them. Eloquence is the prerequisite to influence in the village. Therefore, one should not find it surprising that illiterate parents take great care in teaching their children to speak properly.

Success in the village is a result of the application of intellectual skills to social life. Wealth (food), age, and proverbial knowledge are the means which, proficiently used, bring progress for the individual. Western I.Q. measurements are flatly irrelevant for this type of highly developed social and practical intelligence.

Distorted pictures of the village community are constantly emerging. People who are profoundly knowledgeable and vocal in their mother tongue are judged on their performance in a secondary language like English—which is badly taught to begin with. The adult villager, the youngster, or the child in the school or "course" of the written culture—the "Western" learning machine—meets a world without meaning, and, with human ingenuity, adjusts to it by selecting and memorizing conspicuous features in the classroom situation, the inflections of the teacher, or the circles on the blackboard, just as he or she is accustomed to do by practical observation in the village. The learning style is different, the motivation need not be.

"Eloquence is the prerequisite to influence in the village."

Even in the "Western" schools there is uncertainty as to how conceptual development should be taught. I doubt, for example, that the consequences of Piaget's brilliant experiments on concept formation have ever been drawn in a nonformal education classroom. (J. Piaget and B. Inhelder, *La psychologie de l'enfant*. Paris: Presses Universitaires, 1967) Yet some of us who have worked in the village realize that the fundamental problem for illiterates of any age is not the formation of a written language per se, but the formation of the fundamental concepts that underlie the language, and that seem to be shaped in children to some extent even in advance of the language in social environments that provide regular exposure to stimulation of a "Western" type.

I am thinking, for example, of the experiment with the two equal clayballs, whereof one is retained in shape and one is transformed into a sausage or a pancake, with the question, Is there more clay in the ball? More in the sausage? Or do they both contain the same amount? An illiterate may be prone to answer that there is more in the sausage—with reference to the fact that it looks longer. But it is not only conservation of mass or quantity that is in question. There is also the unstable formation of such concepts as a straight line, horizontality/verticality, and conservation of numbers. Development of such concepts seems to be a prerequisite for transfer of any type of "scientific" knowledge, as they are the only tools with which such knowledge can be handled.

I would suggest that progress can be made along these lines in both the strategy and methodology of nonformal education in developing countries, although great caution is needed, as the whole conceptual framework of Piaget definitely must be regarded as culturally biased.

In a sense one can say that the illiterates—those who belong to a purely oral culture—are to a higher degree controlled by their perceptual field here and now. Development of a written language—that is, transition to the learning style of the abstractions—is a process away from such perceptual control.

The village student, in his apprehension, often depends more on the teacher's concrete behavior, literally his gestures, than on the conceptual logic. It is not an uncommon experience that students refuse to participate in, for example, group exercises because "it is not proper teaching." Proper teaching is the teacher saying a sentence aloud and the students repeating it in a process of monotonous phonetic duplication, including the oral mannerisms. Or it is the teacher writing a sentence on the blackboard and the students repeating it in their notebooks. The teacher is "sharing his knowledge" by handing out "pieces of knowledge," a process similar to that of handing out the meat after a successful hunt.

The learning style of the Bible class—or rather the teaching style of the missionary indoctrination—seems to be mixed with remnants of the traditional solidarity. These are naturally distortions, but they are sometimes alive.

More about Written Culture

Some words should also be said about the written culture. In the industrialized parts of the world, we have become too casual,

almost careless, in our treatment of words. We have the advantage that all of our experience and knowledge are stored in the written language and can be retrieved, thus it does not matter that we lie to ourselves or others. The ability to abstract leads to a conceptual development that allows us to play all sorts of "language games" with reality. Our mind moves from the object to the concept about the object, from the concrete to the abstract. We construct classification systems and models of reality. In modern science and technology we behave "as if" reality were otherwise, and when our predictions regularly come through, we have found a means of controlling reality. All of our experiences and information about reality are stored in these classification systems and models.

The consequence is that we do not learn as much from observation as we learn from books. Such learning detached from the immediate situation has significant effects on our cognition and our ways of communication. It is a stunning fact that, in industrialized countries, a mere one hundred years ago, words were spoken largely between people; now words are spoken to and from machines. The result is that people are, quite literally, less and less in touch with each other.

This is not the place to expand on the problem of alienation in Western societies. In the written culture, people absent themselves from each other and the objects and mount the written word in between. The reality of a book is that our perceptions are reduced to the single sense of sight, which we exercise while sitting in a chair. In the oral culture, the words are behavior-focused, the oral language is sung and danced. It has a quality of concreteness that

"In the oral culture, the words are behavior-focused, the oral language is sung and danced. It activates all the senses of those who participate in the process of communication."

can be touched and smelled, because it comes from living objects in front of our eyes and not from a page of paper. It activates all the senses of those who participate in the process of communication.

In fact, we should not attempt to describe an oral culture in writing. It is mystical participation, a wholeness of the world in which the villager is totally immersed—and do not discard the word "mystical" as irrational! To plow the earth is not just that; it is at the same time to communicate with the spirits of the heaven, because earth and heaven are one. Through the invention of the abstraction, the negation, and the logical universe, we lost the oneness of the world for the sake of the two-ness. We had to invent the concept of eternity to escape the godforsaken dichotomy of our thought processes. To describe the oral culture in writing is a paradox, because to classify and define cultural elements or individual phenomena is just a result of the analytic process that writing itself entails; they exist only in the writing.

Media and Methods

When we do not know what to do in nonformal education, we call for the use of mass media. We think that the miracles of mass media satellites or the latest gimmicks in educational technology will compensate for our lack of political commitment. The problem is not which medium to use. The problem is rather the conceptualization of a message that can be adjusted to *any* medium. The question is, What is the learning style of the village people and how can it be unified with the new technology? Good media application, innovative message, or curriculum design should take a starting point in the conceptual elements that are found in the local community's learning style and cultural expressions.

In the outline of the oral culture there is a core of elements of importance for a nonformal education strategy. Not only does it overwhelmingly support the use of radio, it also gives detailed prescriptions for how radio broadcasts should be designed, in both form and content. At the same time, we can see strong justification for the use of audiovisual media to bridge the conceptual gap, because there is potential for learning to take place through observation. But as for radio, the medium and the message must be modified in accordance with the cultural prerequisites. Educational film, for example, is strongly dominated by Western modes of expression and editing. It is not only the question of the pictorial "story." It is also the structure of the sequences, the continuity, and the "syntax" that should be adjusted to the perceptual pace of the illiterate. "Reading" moving pictures is also a skill that must be acquired.

From the point of view of educational strategy, it is important to recognize that the type of sustained behavioral change that is needed if social change is to emerge does not result from the use of mass media alone, but from learning situations in which technological media are combined with person-to-person communication and group interaction. (K.D. Jackson and J. Moelino, *Communication and National Integration in Sudanese Villages: Implications for Communication Strategy*. Honolulu: East-West Center, 1972) No educational technology or mass media, however sophisticated, can substitute, in terms of quality, for person-to-person communication. The advantage of modern media technology is purely in the quantitative dimension, the potential for reaching large audiences in a short period of time and repeatedly.

The Meaning of Public Participation

Nonformal education is closely connected with the issue of public participation, a concept that is gaining consideration in national planning papers, development projects, program descriptions, and U.N. resolutions. It is considered as important for rural development as for primary health care or nutrition implementation programs. There seems to be a general recognition of its theoretical implications, but when practice is concerned, the meaning becomes more nebulous. Government officials talk about public participation and mean it, but when it comes to it, they do not mean it

"The problem is not which medium to use. The problem is rather the conceptualization of a message that can be adjusted to any medium."

quite so much. There is a record of backtracking on the issue when the going gets tough in the field. In times of budget cuts, it is convenient for politicians to look to the resources of the local community.

I suggest that the idea of public participation is, indeed, not only the idea of tapping the economic resources of the community. It is particularly not to ask the local people to build a clinic house against the promise of a government nurse who either does not turn up at all or is suddenly sent on long leave for further education without replacement, or to build a schoolhouse against government delivery of corrugated roofing and iron window frames that never turn up because the budget was calculated incorrectly. Such sins are committed continuously, and government officials get their regular absolutions by stating that the villagers are superstitious, backward, deferent, and ignorant.

People in so-called traditional societies have managed to survive by virtue of their oral culture for thousands of years. I am not propounding the return to a romantic, pastoral worldview. I am saying only that what is presumed to be ignorance must be recognized as another life style. All life styles are equal. Successful development work starts with a fundamental trust in people's own ability to cope.

Public participation can mean only people's right to decide for themselves, and efficient nonformal education does not mean talking fast, but listening well. ■

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Games with Children

(Continued from page 7)

each source discovered, so that the same source is not claimed more than once by any "player," and so that a proper claim is made of each "find" and can be judged to belong to the first finder. Some kind of point system and reward for the most points could be devised. All the information from this "Look, See, and Tell Game" would then be brought together and displayed on the largest possible area on which an outline map of the village or community can be marked out—the school playground, a sportfield, a market square, the side of a house. The map can be outlined with chalk, stones, or bamboo, or scraped in the dry earth. The children can make models, with mud, coconut shells, card, anything. Then, with sections of the map allocated to pairs of children, they would fill in the map, marking all the water sources.

A village leader, a health worker, or a youth group might organize the whole game. Better still, an enterprising schoolteacher might use a water "Look, See, and Tell Game" to teach and link many aspects of the curriculum, preferably as a practical activity illustrating what the school is supposed to be teaching anyway—map-making, charts, graphs, handicrafts, hygiene, social studies, essay-writing—or as a valuable learning project in its own right.

Children could be asked to write on "24 hours of water use in my family," describing where the water comes from, how it is collected and stored, how much is used for what, and something about the seasonal variations. They could be set the task of producing a wall mural (children paired, each pair taking a small section of the wall) illustrating water use in the village. All of this clearly has direct relevance to the school curriculum.

From this basic game, we can move on to a "Look, See, and Tell Sanitary Inspector Game." Teams are again formed and reward given, this time to the team that identifies from all the sources the most water risk danger situations (having been told all about these beforehand—cattle drinking, bathing, clothes washing, open wells, defecation). They must place a sign to mark the danger and to claim the site for their team. The signs could be semi-permanent so as to mark the site until the risk was eradicated.

Now the risks would be added (big red spots?) to the sources plotted on the huge map. These water games might be linked appropriately to local water festivals like Holi, Mahathingyan, and so on. When the whole layout is satisfactorily completed, the village leaders and the whole village should be invited to attend a ceremonial inspection of the map. The whole thing will be explained (perhaps by the children themselves) and a full presentation made on "Our Village Water Conditions and What Might Be Done for a Clean Village Water Supply."

Of course, these games and the whole procedure expect much of the schoolteacher or whomever, and might require a campaign to back them up, with an orientation and practice sessions, sponsored by the education, welfare, or health authorities.

All of this information and the community involvement and interest engendered by these "game" activities are the fertile ground upon which can be built specifically local, tailor-made plans. In full consultation with a well-informed community, the engineers, the health educators, and the community organizers can tackle together a whole range of problems. We would, under these circumstances, have every reason to believe that the community has a full stake and will give a full effort to implementation, for the plans will be a reality to them and a challenge to us to fulfill our part in mutually realistic expectations.

This is only one illustration for a child-contributed approach to planning. Variations can be prepared and experimented with in relation to many if not all development activities, such as malaria control, immunization, nutrition (remember children are the experts in knowing the whereabouts and condition of pre-school children and babies). Other sectors concerned with agriculture, irrigation, forestry, husbandry, transport, markets, and so on could help devise action-oriented exercises in this way.

What we need to do is to try it, learn from real experience in the communities and villages where development activity is to take place, and work out some persuasive "How to" guides.

Is there anyone listening and interested out there in the knowledge network? Can we get together, hammer out the details, design materials, and try the approach out somewhere in relation to specific projects? ■

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Who Controls the Medium?

I was inspired to write after reading the article, "Development Aids or Global Village Artifacts?", by H. Stuart Hawkins (*DCR* No. 27). This article is representative of many situations in India, but it touches only the very surface of the problem. What has to be understood is the context in which "inappropriate" equipment or technology finds its way into remote parts of the world. The baby food companies have been criticized for advertising their products, but in many other aspects of development, certain transference of values and technologies is usually not taken as seriously.

Very often equipment that one finds in remote parts of the world has reached there because some expert in communication has found it relevant to his idea of communication, and through his own knowledge of the equipment, he is able to control the medium. New equipment also finds its way into such places with the help of people who want to join or remain members of the international club of communicators by testing and using the latest audiovisual equipment that appears on the horizon.

The choice of the medium is also conditioned by the background of the communicators. During my stay in the UK many people traveling to the developing countries have asked, "Are black-and-white photographs as effective as color photographs?" The answer to this can be viewed from many perspectives. First, in India a color film costs about 10 to 20 times more than a black-and-white film; the cost of a color film may be approximately the weekly salary of a middle-level civil servant. Also, the processing of the color film can be done only in the capital city, whereas black-and-white processing is often possible in the smallest town or can be easily done locally. Second, black-and-white photographs are never used to their potential before deciding whether color is better.

This latter point is probably true in most decisions about which media is appropriate in a particular situation. Communicators hop to the latest equipment without ever optimally using or designing to the full potential of the simpler aids. Using the simpler aid is a threat to the communicator's credibility, because often it is a skill any ordinary individual (like myself) can learn. So the obvious retreat is in jargon or in technology that the local population have never seen—like taking the videocassette to places where the newspaper has hardly reached. This is the facade behind which all development communication dormantly rests, a facade that central governments, certain social classes or groups, and urban elites often use to their own advantage to control the media or communications system.

No medium is essentially better than others, only some are better presented and used because certain values influencing the decision or ends justify this. Verbal communication, which is still responsible for the greatest proportion of communication, is totally ignored because it is without technology and too ordinary to lure the communications experts; there is little they can control. The method of production of communication materials greatly influences who controls the medium. ■

Sunil Mehra, former communications officer with the Voluntary Health Association of India

The Village Printer: Paper Making Demystified

Benedict Tisa *is a nonformal educational communications consultant who has worked extensively in Mali and Bangladesh. He concentrates on projects that use appropriate media to transmit educational information. The following article is excerpted from a conversation between Ben and the editor of* DCR *in August 1979.*

Your question about paper making goes back to the issue of controlling the information in your own environment. You are what you believe, what you read, what you hear. If you can control the communications in your own environment and establish your own self-image, you can go a long way toward maintaining your identity.

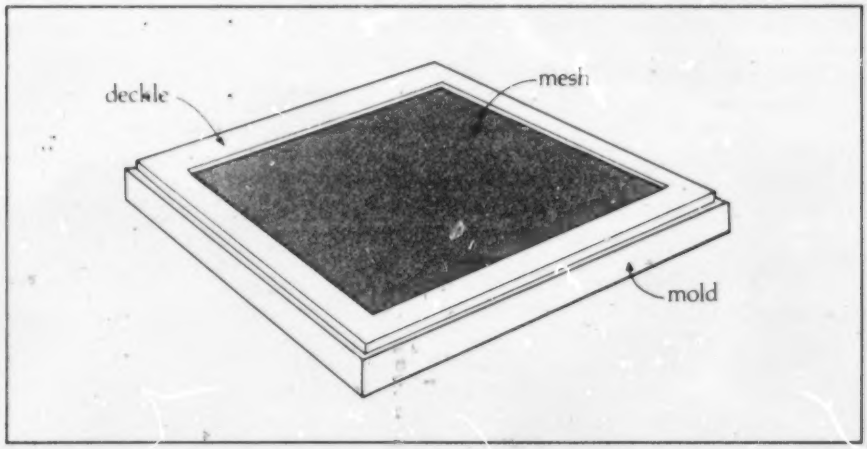
One way to approach information control is through local newspapers. Unfortunately, talking about local newspapers is talking about money. Bangladesh, for instance, imports virtually all of its newsprint, so a local newspaper is not a low-budget item. How, then, can people who are poor and illiterate control the media, even the plain mechanical process of printing?

The last time I was in Bangladesh we came up with an interesting approach to the problem. First of all, we all know from experience that rubber stamps play a role in most Third World countries. People like to use rubber stamps. When you get your papers processed, they have to have that rubber stamp. We took that idea and ended up making a whole set of rubber stamps with the letters of the alphabet, to be used by the functional literacy teachers. They stamp the words or letters out with the set, and they create and control their lesson plans. Clean water? They can stamp "clean water," and they can stamp it as much or as little as they want. The students can stamp it, too, after they start learning to recognize and write their letters and numbers. The whole little printing press cost something like 10 or 12 dollars.

As it worked out, we were also supplying the paper, and that was a problem. I think the next process to introduce to those Bangladesh villagers is the process of making their own paper. I am fundamentally a systems person, and I think it is important for people to understand that paper does not just come out of the store. People respect paper, and the idea of making your own piece of paper and printing on it yourself enforces the fact that *literacy is communication*. If people control the rubber stamps and make the paper, the whole process is demystified and simplified; it is a complete system.

Making paper is a snap. Anybody can make paper. Not only that, you can make paper out of just about anything. You can make it out of leaves, rice husks, bark, bamboo, grass, wood, flax, straw, banana leaves, sugar cane bagasse, old rags, old paper. You are basically looking for fibers of cellulose, which are contained in the cell walls of all plants.

To make paper, get a bucket, and take whatever you have—old papers or whatever—rip them up, and throw them in the bucket. If you use leaves, clean them, removing all of the stems and non-leafy pieces. Add water and let the fibers soak, preferably overnight. Next, beat the mixture, chop it up, get it thoroughly separated and saturated, either manually or by using a blender, an egg beater, or whatever works. You can add a little bleach to the pulp mixture to make it whiter.



For the next stage you need to build two frames, according to the size of paper you want to make. The first, the mold, needs a piece of fine mesh screen stretched over it. Nylon screen is best and is available in most countries. The second frame, the deckle, fits on top of the mold. If you have a vat large enough to hold your paper pulp mixture, you can dip the mold into the vat and pick up as much pulp as you need for the thickness of your paper. Otherwise, you can pour the fibrous pulp mixture on top of the mold screen. The deckle is in place to keep the pulp from running off of the side of the mold. You will learn from experience how much pulp you will need. The basic procedures are simple but need to be adjusted to the materials you are using.

As the pulp sits on the mold, the water drains through the screen, leaving the fibers on the surface. Remove the deckle, and turn the wet piece of paper onto a piece of felt. (If you have no felt, use plain cotton material, or turn the paper onto a flat surface and iron it to dry it.) Stack up sheets of paper and layers of felt alternately, applying pressure to remove the moisture from the paper. Carefully separate the paper from the felts, as the paper is fragile at this stage, and let the remaining moisture evaporate. Normal drying time is from 6 to 24 hours. In humid climates, drying may take longer.

If you want to gloss the paper, you can dry it on a smooth piece of metal. Make decorative papers by sprinkling flower petals, silk threads, or other materials onto the wet paper after removing it from the mold. You can add color by mixing colored scraps or acrylic paints with the pulp. You can make the paper less absorbent by "sizing" it—floating each sheet briefly in a mixture of gelatin and water (1/2 teaspoon of gelatin to 3/4 litre of warm water).

That is the basic paper-making process. It is cheap, it works, and it gives people control of their own information medium. ■

For additional information on paper making, see Basics 5 *(October 1978), available from Rural Communications, 17 St. James Street, South Petherton, Somerset, England. Ben Tisa would like readers to share with him their experience in simple paper making. Contact him at 616 Lees Avenue, Collingswood, New Jersey 08108, U.S.A.*

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Readers are invited to submit typed manuscripts of no more than 1000 words and to send in photographs.

A Communicator's Checklist

1 ***Institutional Exploration in Communication Technology***, edited by Godwin C. Chu, Syed A. Rahim, and D. Lawrence Kincaid (Honolulu, Hawaii: East-West Center, East-West Communication Institute, 1978), 174 pages.

In 1976 the East-West Communication Institute in Honolulu convened a conference of some 20 scholars from the United States, Asia, and the Pacific "to explore the interrelations between modern communication technology and changes in social organization." Nine papers from the conference were selected for this volume. Following an introduction by Godwin Chu, they are organized into sections on theoretical issues, case studies of communication impact, and policy and planning.

The three papers on theory grapple with what is identified in the introduction as the fundamental question underlying the conference, "What can be expected to happen to society when modern communication technology is introduced?" Each adopts a general approach, potentially at least as relevant to an industrialized as to a developing country. Chu is concerned with finding a systems perspective that will contribute to the understanding of two issues: the role of communication in the structure and functions of a social system; and the way modern communication technology changes the patterns of communication, and hence affects the structure and functions of the social system. He proposes a conceptual scheme that he believes would help in this. I must admit that I found it more useful in indicating what one would like the theory to explain than in indicating how the theory might be developed.

Drawing on his research for the Australian Telecommunications Commission, Solomon Encel provides a wide-ranging review of the roles of communication and information technology within an advanced industrialized society. In so doing, he indicates the importance of the perspective provided by socio-technical systems theory, originally developed by the Tavistock Institute in London. Philip Tichenor and his colleagues from the University of Minnesota identify two kinds of impact of the introduction of new communication technology. One relates to the proportion of communication that is intended to be interactive ("the feedback distribution ratio"), the other to the flow of information to privileged status groups ("status information flow"). They go on to distinguish two types of technological innovation: some innovations introduce new varieties of channel ("channel-increasing"); others expand the capacity of existing channels ("channel-redundant"). They then discuss features of the social structure that could be expected to affect the impact of either type of technology.

Three case studies are presented in the second section of the book. Kadamattu Eapen of the University of Bangalore draws on the fieldwork of two of his students in describing the impact of satellite-transmitted television on two Indian villages (the SITE project). Sukanya Terawanij of Chulalongkorn University in Bangkok provides a more global discussion of influences of and influences upon mass media in Thailand. Harsono Suwardi of the University of Indonesia describes the role of rural radio forums in rural development in Indonesia and draws some conclusions regarding satellite-transmitted television.

Each of the papers raises important issues; Eapen's paper in particular provides much food for thought. Taken together they raise a number of interesting questions that have obvious counterparts in more industrialized countries, too: What is the timescale on which effects, particularly due to planned experiments, can be expected to manifest themselves? What are the effects on where people spend their time? What are the differences when a national strategy focuses telecommunication on rural areas, rather than adopting a laissez-faire approach? The papers on theory had not helped me to think these through.

The last section is concerned with policy and planning. Lee Ruggels and his colleagues from Stanford Research Institute use the "naturally occurring development experiment" in Saudi Arabia to analyze institutional limitations on communication development in the absence of significant financial constraints. Their primary interest is how to specify the components of a *national system* and their interrelationships in such a way as to provide a useful framework for planning. Then there is a gem of a paper in which Bella Mody of the Indian Satellite Instructional Television Experiment analyzes the background of this project, traces its development, and makes a number of observations on "needs-responsive institutions." As a case study of a planning process, it draws out with remarkable clarity and conviction a variety of institutional, personal, and political factors that are of crucial importance in practice, but that receive regrettably little attention in the planning literature.

In the final paper, Syed Rahim, one of the book's editors, discusses issues raised in the papers that have gone before. He concludes, among other things, that "the available theoretical tools for analyzing social impacts of communication technology are grossly inadequate." Indeed they are. Nevertheless, as his other conclusions show, there is much that can now be said with confidence, that *should* inform the planning and management of development communication. I hope it will, but I am not optimistic.

This is a well-edited and nicely produced book. Each of the papers is thought-provoking. And, while their quality varies, the consistency is noticeably higher than is generally the case with proceedings of conferences. I hope it will be read. ■

Available for U.S. $3.00 from the Publications Office, East-West Communication Institute, 1777 East-West Road, Honolulu, Hawaii 96848, U.S.A.

Reviewed by Martin C.J. Elton, chairman of the recently-formed Interactive Telecommunications Program at New York University's School of the Arts and a member of the senior staff of the Alternate Media Center. Before joining NYU in 1976 he directed the Communications Studies Group at University College London.

2 ***Radio Learning Group Manual: How to Run a Radio Learning Group Campaign***, by David Crowley, Alan Etherington, and Ross Kidd, with illustrations by Petra Hubbard (Bonn, Germany: Friedrich-Ebert Stiftung, 1978), 197 pages.

The authors brought to this radio learning group manual their considerable experience in designing and organizing two major radio learning group campaigns in Botswana: a 1973 campaign on the National Development Plan and a 1976 campaign on the Tribal Grazing Land Policy, both officially considered to have successfully informed and educated the public about these important national issues. In turn, the authors give credit to the many years of experience with various farm forums and other learning group activities from which the models of media-supported mass education programs were first developed.

Written with some light-heartedness and illustrated with cartoon drawings, the manual describes in careful detail the necessary flow of activities from the conception

of the idea of a mass radio learning group campaign to its actual implementation and evaluation. The organization of the campaign is very clearly presented, indicating to the reader all of the requirements of the process. Although the authors display a tendency to overgeneralize and lay down rule after rule without reference to concrete experiences, the book in its latter pages recapitulates the "how-tos" with specific references to the Botswana campaigns.

The manual appropriately cautions that radio learning groups should be used only when there is a message of "truly national importance." Because such campaigns are complex and costly in terms of people and political and financial resources, the authors argue against using the radio learning group campaign method when "the message concerned has local rather than national significance; the audience is specific rather than general; there are good reasons for deciding that a *long*-term educational program is needed; there are major concerns of a sort that cannot be handled in a mass campaign."

If those cautions are heeded, one may proceed energetically and optimistically to the complex details that the manual asserts one must follow in order to conduct a successful radio learning group campaign. The authors stress the need for obtaining top level political support (a wise priority), and for sufficient funding to pay for supporting staff, training field workers and local group leaders, materials, transportation, programming, obtaining feedback, and evaluation. They also project a system of campaign working teams assigned to specific tasks of planning and implementation, the teams working together in a closely knit support network with enthusiasm for all aspects of the campaign.

The authors argue for a very early, careful definition of the goals to be achieved and the audience to which the educational effort will be targeted. Unfortunately, few of the errors or pitfalls that occurred in the Botswana campaign are mentioned. These examples would have helped to exemplify some of the dicta in the manual.

The manual does not make any reference to the problems of organizing listening groups today. With the growing number of transistor radios available, not only within a village but within families, and the growing encroachment of television in many developing countries, it is becoming more and more difficult to plan and organize listening groups around radio programs. Furthermore, the model presented in the manual is a full-blown elaboration of the listening group method, the success of which requires a very complex supportive organization and considerable money.

Unfortunately, what may have been true in Botswana in terms of resources may not be the case in other developing countries. The manual does focus on short-term campaigns rather than the longer-term farm forum-type of development education effort; nevertheless, few countries will be able to create and support the kind of organization the authors are used to and present as requisite to success. The authors are correct, of course, about such requisites, but there must be other models that can be offered to developing countries that do not have as nigh a level of resources.

A minor point: The illustrations come across as somewhat paternalistic, with expatriate-looking men playing the key roles. I do not imagine that was the intention of the illustrator, but local workers may be put off by the cute but often helpful sketches and their messages.

This book is one of the best guides to and through the maze of mediated mass education. The flow charts are excellent references for *any* planner. It will be up to each planner in his or her country to determine how much the model presented in the manual can be varied to correspond to the realities of the country and yet reach the kinds of development goals that Botswana achieved through its radio listening group campaigns. ■

Available from the Mass Media Department, Friedrich-Ebert-Stiftung, Godesberger Allee 149, 5300 Bonn 2, Federal Republic of Germany.

Reviewed by Allan M. Kulakow, Academy for Educational Development.

3 ***Folk Media.*** 16mm film, UNESCO, color.

One of a series on communication for family planning, UNESCO's film, "Folk Media," presents ways in which traditional folk media can be adapted to carry development messages. The film illustrates the use of folk drama, puppetry, storytellers, and songs to reinforce the aims of family planning organizations in India.

The film identifies for the development education planner three important considerations for successful use of folk media. First, a complete inventory should be made of the existing traditional folk media in the target area. This will help determine the most appropriate medium for message dissemination. Second, the folk artist should not be presented with a ready-made script but rather with the ideas to be presented. Once convinced of the validity of what is being taught, the artist will weave the message into the body of the production in a natural, unforced manner suitable to the medium. Third, avoid overloading the medium (which is supposed to entertain) with the message; otherwise, the audience may be lost altogether. ■

Available for U.S. $200.00 plus shipping from World Wide Pictures, 21-25 St. Anne's Court, London, U.K.

Reviewed by Judy Brace.

4 ***Social Marketing.*** 16mm film, George Washington University Department of Medical and Public Affairs, 20 minutes, color.

This film looks at the application of traditional advertising techniques to contraceptive marketing campaigns in Jamaica, El Salvador, and Bangladesh. In each of these countries, the methods of marketing research were used to choose acceptable names for both male and female contraceptives; design attractive packaging and advertising posters; develop catchy radio spots, slogans, and jingles; and identify familiar and convenient distribution channels.

Rather than a "how-to" exercise, the film is an attempt to broaden the perceptions of development educators so they might take advantage of the commercial processes already at work throughout the world. ■

Readers are welcome to request information regarding the availability of this film from the Film Librarian, Information Services, George Washington University Department of Medical and Public Affairs, Airlie, Virginia 22186, U.S.A.

Reviewed by Judy Brace.

How Can You Contribute to CDC?

- If you are in Washington, come to the Clearinghouse, use the Clearinghouse collection, and visit with us. This helps us to stay in touch with what is happening in the field.
- Write and tell us about your projects—your experiences are valuable to your counterparts in other countries.
- Send us regular copies of your publications, papers, and reports. These are valuable to us as we work to strengthen the development communication network worldwide, and they will be used by visitors who come to use the Clearinghouse collection for research in planning their own projects.
- Send us articles for publication in *DCR*. We are planning future issues on evaluation and literacy; manuscripts on these and other topics are most welcome.

PROJECTS IN BRIEF

These project descriptions were written by Barbara O'Grady, of the Academy for Educational Development, using information submitted by readers in response to the Project Information Request in Issue 18 of DCR. Future newsletters will contain four project descriptions an issue until the series is completed.

EXTERN: EDUCATIONAL EXPERIMENT IN RIO GRANDE DO NORTE

Jorge de Mesquita
INPE
12.200 São José dos Campos, S.P.
Brazil

Date submitted to CDC: October 13, 1977

FOCUS: In this project radio and television were used to supplement and upgrade classroom instruction at the primary level in urban and rural classrooms in Rio Grande do Norte. The aim of the project was to augment instruction where there was a shortage of qualified teachers and to reduce student truancy rates. Emphasis was on discovering effective methods of adapting the media to classroom situations, a particularly difficult task in the first grade because of the children's limited command of the language.

SUBJECT AREAS: Education

TYPE OF MEDIA: Radio, television, supporting print material

TARGET AUDIENCE: Literate adults and youths, both rural and urban

SCALE OF PROJECT: Regional—500 schools

PROJECT STATUS: Completed (1972-1974)

SPONSORING/COOP. AGENCY: Brazilian Institute for Space Research (INPE), CEDO (British), USAID

THE CHIWANDA PROJECT

Hilda Kokuhirwa
Center for International Education
University of Massachusetts
Hills House South
Amherst, Massachusetts 01003, U.S.A.

Date submitted to CDC: June 1, 1977

FOCUS: The Chiwanda Project, an outgrowth of the Tanzanian national nutrition campaign of 1975, was designed to combat the malnutrition problem in Tanzania. It encouraged villagers to move toward self-reliance in food by growing more fruits and vegetables and raising chickens. The Institute of Adult Education, which had organized the nutrition campaign, aided the project by providing funds, personnel, and materials.

SUBJECT AREAS: Nutrition

TYPE OF MEDIA: Cassette recorder, photographs, books, pamphlets, posters

TARGET AUDIENCE: Rural adults and youths

SCALE OF PROJECT: 10 villages

PROJECT STATUS: Begun in 1975; in implementation stage as of 6/77

SPONSORING/COOP. AGENCY: Institute of Adult Education (Tanzania); UNESCO

TRANET

William N. Ellis
TRANET
Box 567
Rangeley, Maine 04970, U.S.A.

Date submitted to CDC: 1977

FOCUS: TRANET is a transnational network of and for groups working with alternative and appropriate technologies (AT) in both developed and developing countries. It aims to stimulate exchanges between AT centers and to promote dialogue on the concepts of AT among world leaders.

SUBJECT AREAS: Agriculture, Health, Nutrition, Community Development

TYPE OF MEDIA: Newspaper, newsletter, directory

TARGET AUDIENCE: Literate rural and urban adults

SCALE OF PROJECT: Transnational—over 300 members

PROJECT STATUS: Begun in 1976; ongoing

SPONSORING/COOP. AGENCY: 40 percent membership; 60 percent support (World Bank, etc.)

SYSTEMS APPROACH FOR ADULT EDUCATION

Isaias Aguayo E.
Casilla 95
Viña del Mar
Chile

Date submitted to CDC: April 31, 1977

FOCUS: The aim of this project is to explore new approaches to adult education in Chile through the application of programmed and personalized instruction in order to reduce the number of dropouts and repeaters, improve low grades, and solve distance education problems. Project personnel feel the need for a complete revamping of the traditional system and have promoted numerous curriculum changes; they are seeking an innovation that would eventually lead to tele-education.

SUBJECT AREAS: Education

TYPE OF MEDIA: Programmed material or individualized instruction

TARGET AUDIENCE: 800 adults initially

SCALE OF PROJECT: National

PROJECT STATUS: Project to run 1977-1985; in implementation stage as of 4/77

SPONSORING/COOP. AGENCY: Catholic University of Valparaiso; Ministry of Education

On File at ERIC

Documents listed below are available from ERIC Document Reproduction Service, P.O. Box 190, Arlington, Virginia 22210, USA. Order by ED number and enclose payment for the price listed plus postage.

- Lerner, Daniel, ed. **Asian Communication: Research Training, Planning.** Honolulu, Hawaii: University of Hawaii, East-West Center, 1976, 132 pp. (ED 163 998).

  A selection of eight papers on Asian communication is presented, alerting communication researchers to significant work being done outside of the academic community. Topics include: 1) a Malaysian experience in using commercial resources for audience research; 2) a content analysis model of the Pakistani press; 3) the provincial press and national development in Malaysia and the Philippines; 4) a comparative analysis of the mass communications systems of Burma, Malaysia, and Thailand; 5) teaching and training in building the Asian Communications Network; 6) national planning and telecommunications in the Asia/Pacific context; 7) economics of communication technology; and 8) Asian contexts for development communication. Available from EDRS in microfiche for $.83 or in photocopy for $7.35.

- Elsas, Diana, and others. **Third World Cinema. Factfile No. 10.** Washington, D.C.: American Film Institute, 1977, 28 p. (ED 153 615).

  Included in this guide are the nations of Latin America, India, and Southeast Asia; the non-Arabic countries of Africa; and Puerto Rico. Organizations listed with descriptive information are either actively involved in Third World cinema, concerned with international cinema as a whole, or serving as resource centers for information on specific nations. The schools listed are representative of film/television learning opportunities in Third World nations. There are sections on film archives, film festivals, and distributors either in or concerned with developing nations. An annotated bibliography lists publications on Third World cinema, political cinema, and international cinema. English-language film publications that often cover these topics are also listed, as well as several indexes to periodical literature. A representative listing of periodicals in languages other than English or published in Third World countries includes ten titles in English, French, Portuguese, or Spanish. Available from EDRS in microfiche for $.83 or in photocopy for $2.06. Also available from the American Film Institute, National Education Services, John F. Kennedy Center, Washington, D.C. 20566 ($3.00).

- Jackson, Miles M. **A Report on Libraries in the Pacific Islands: An Impression.** Washington, D.C.: Council on Library Resources, 1978, 12 p. (ED 156 185).

  A five-week trip to study library and information services in the South Pacific included visits to American Samoa, Fiji, New Zealand, the Commonwealth of the Northern Mariana Islands, and Guam. This report provides information on each country's library services, structure and organization, staffing, collections, facilities, and any existing librarianship training programs. In general, the countries are making slow progress toward developing library services; however, progress at the University of the South Pacific, University of Papua New Guinea, and the Papua New Guinea University of Technology is noticeable. The most urgent needs identified by the study are for more trained librarians, greater financial support, and sympathy from government leaders. Available from EDRS in microfiche for $.83 or photocopy for $1.67.

- **Television for Very Young Children and Their Parents.** Reports and papers of a seminar held in Kuala Lumpur, March 7-12, 1976, 31 pp. (ED 164 005).

  This summary of the presentations at a seminar organized by the Asian Broadcasting Union (ABU) in collaboration with the Prix Jeunesse Foundation and with the assistance of UNESCO, includes reports on television programming for very young children in Europe, Japan, Australia, Bangladesh, Hong Kong, Indonesia, Iran, Korea, New Zealand, Pakistan, Singapore, Thailand, and Malaysia. Programs for parents in Europe, Japan, New Zealand, and Malaysia are also briefly discussed. Brief notes on points raised in discussion of the papers are provided, as are a list of participants and the recommendations presented to and later adopted by ABU. Available from EDRS in microfiche for $.83 or in photocopy for $2.06.

Barbara B. Minor, Publications Coordinator, ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13210, USA.

Dilemmas . . .

(Continued from page 16)

selves are very often convinced that equipment is all that is really needed. As they are usually the first ones to be asked when it comes to establishing a new station, they may cause the impression that costs for equipment are a necessity but everything else is a luxury.

4. Prestige decisions

It can easily be seen that this has something to do with the fourth reason: the way in which decisions are made, and the people who make them. Decision makers in this field are usually of the highest political rank; those who have the know-how are usually not consulted.

The cases where educationalists and media experts are first asked to define the purpose, i.e., the message and the target group, whereupon a decision is taken as to what medium might be most suitable and most efficient for this purpose, are extremely rare; and if this discussion were started, it would hardly ever lead to television as the most suitable medium. However, in most cases, the media specialist finds himself in a situation where the decision to establish a television service has already been made on political grounds, and he can only ask himself whether there is a chance of putting the medium to a more beneficial use than the transmission of speeches.

5. Lack of administrative coordination

A fifth reason is the fact that responsibility for the different fields of budgeting is more often than not split up between different ministries, so none of them feels obliged to see the whole scheme, and decisions are not related to each other. If a country has seen the necessity for long-term planning, this will not automatically solve the problems. It may even aggravate them. A multi-year plan will very often only consider investments, but not follow-up costs.

A plea for planning and training

There is clearly only one solution to these problems: all costs resulting from a project—investment, staff, and running costs, now and in the future—must be seen and planned as a package. The decision makers must be made aware that if they approve a sum *x* for investment one year, this will inevitably result in the necessity of approving the sum *y* for recurrent costs the next year, and they cannot do one and reject the other. As a precondition to this, management training must be made available to broadcasting management staff in order to enable them to calculate fully their recurrent costs for future operations. A training course of this kind, however, is not in sight. ■

Dilemmas in Country X: Candid discussions about failures

The contributor of the following dilemma, who wishes to remain anonymous, discusses a typical development communication problem: it is easier to get money for new buildings and equipment expenditures than for staff salaries and on-going program costs.

The editor invites readers to submit descriptions of their own project problems for this column. Author's name—as well as those of the people, agencies, and countries involved in the project—will be withheld upon request.

The television organization of an African country that so far has a studio only in the capital builds a second one in an important regional center. This is done upon the demand of a powerful public corporation that has its headquarters there and that offers to carry part of the financial burden. The studio is built and equipped and ceremonially opened by the president of the state. The ceremony itself and some related events are transmitted by the new station. After three days the studio is closed and locked, two watchmen are left there, and the rest of the staff go back to the capital. When a week later the provincial governor decides to use the studio for a public speech, he comes to a deserted place. Nobody had informed him. He had seen a program labeled with the name of his province every evening. What he did not know was that it was produced in the capital.

The reason: the Ministry of Information responsible had a budget for investment, but not for personnel and running costs for this station. Or, more precisely, the Ministry of Planning, which is responsible for investment, had voted money to install the station, but the Ministry of Public Service, which is responsible for established posts, had not voted money for salaries, nor the Ministry of Finance for running costs.

The case is symptomatic and typical. In an attempt to generalize, it might be said that decision makers more easily appreciate (or at least give in to) requests for new buildings and equipment than to requests for more staff and higher running costs. The reasons for this may lie in any one of five different directions.

1. One-time versus recurrent costs

The first reason is that money for investment is a one-time expenditure, whereas salaries and running costs are recurrent. The decision makers know what money they have available this year, but they do not know for the years to come, so they are afraid to commit themselves for the future.

It may also be easy to raise the money for equipment from foreign sources. Foreign money, however, can usually not be obtained for other costs. This raises the question of the responsibility of foreign agencies for mistakes committed.

2. Hardware is easier to calculate

The second reason may be that in discussions on budgeting, the case for the purchase of equipment is easily more convincing than the case for staff and running costs. The equipment can be named precisely, and quotations can be found in the catalogues of suppliers. As for staff and running costs, it is not easy to really prove that so many staff are really needed, that programs could not be made at costs a little lower.

This of course brings us to the fact that African radio and television stations, adult education departments, and other organizations concerned usually suffer from a serious deficiency in management skills and techniques. In many cases, no statistical data are available on programs, no evaluation is done of program impact or of staff efficiency, and as a result, no analysis is made or can be made of the factors contributing to the production of programs or to their impact on the audience. Management deficiencies are so bad that in many cases not even regular program planning is possible. Decisions on programs are made on a day-to-day basis.

3. Engineers have an equipment bias

A third reason can be seen in the experience that broadcasting technicians them-

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Development Communication Report

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